REMARKS

Claim 1 was rejected under 35 USC 103(a) as being unpatentable over Stokes US 6,345,128 in view of Beretta US 5,901,243. Claims 2-4 were rejected under 35 USC 103(a) as being unpatentable over Stokes US 6,345,128 in view of Shalit 5,345,315 and Beretta US 5,901,243. Claim 5 was rejected under 35 USC 103(a) as being unpatentable over Stokes (US 6,345,128) in view of Shalit (US 5,345,315), Beretta (US 5,901,243) and Gilman (US 5,913,014).

Claims 2 and 3 have been cancelled. Claims 1 and 4 have been amended to more clearly set forth the invention. Applicants will first reply to the Examiner's response to Applicants' previous comments. In Applicants' previous reply, claim 1 of the present application was reviewed and it was paraphrased to point out the differences between the cited references and the present invention. On page 6, lines 13-33 of the previous response specific reference was made to claim 1. Element (a) of claim 1 calls for providing a plurality of exposure and tone scale correcting transforms with each transform being unique to an exposure condition. In element (b) the plurality of transforms are applied to the digital image (a single image) and a plurality of images are produced. In element (c) a determination from the plurality of printed images is made by a user as to the most satisfying printed image.

It is true as the Examiner points out that Stokes does use a plurality of tone reproduction curves. He then uses these curves to produce a modified or mean curve with no exposure correction. However, claim 1 requires both exposure and tone scale correction in each transform with each transform being unique to different exposure conditions. The Examiner's attention is called to Figs. 3a-3i which show nine different exposure conditions. Each transform corrects for both tone scale and exposure. In Stokes a plurality of images are produced from a single image using a plurality of different transforms. A particular tone reproduction curve or transform is selected and then used on multiple images. In the present invention as set forth in claim 1 only the most pleasing image is selected. This is done on all subsequent images. No particular transform is selected for subsequent images.

Beretta shows a plurality of transforms in Figs. 7-11. These transforms correct only for tone scale (see col. 7, lines 17-61). Beretta, in col. 7, lines 18-21 states that "Fig. 8 shows a tone correction by offset wherein a fixed value is added to the tone levels so that all levels higher than the exposure level are mapped into the maximum value." In Fig. 8, the top right portion is actually truncated. In other words he is increasing the contrast in that region of exposure. In Beretta a scanner is used, there is a single exposure by the scanner. Each of the curves set forth in Beretta assumes a single exposure and makes tone scale adjustments based on that exposure. In the present invention, there is an image capture device such as a digital camera and that can have multiple exposures. The transforms of claim 1 each are set to a unique exposure and by printing transformed images of these exposures a user can make the best match between captured exposure and printed image. If the transforms of Beretta were to be used, there is no exposure correction. The best images cannot be produced from an image captured by a device under different exposure conditions. Clearly, Beretta is directed to a different problem than the present invention. There is no suggestion in Berretta of the search for an appropriate transform which corresponds to the widely varying exposures of images captured by a digital camera device.

As previously pointed out Shalit uses a xerographic hard copy image for forming a greyscale test image. Shalit does disclose displaying a visual digital image on a display so that the differences on a display from a printed image can be correlated. The density differences in greyscale are then used by a computer to adjust a single tone scale reproduction curve. There are not a multiplicity of tone scale reproduction curves in Shalit and here again, in a xerographic process there is a single exposure. Applicants fail to find any motivation in Shalit for the subject of claim 1 where a plurality of exposure unique tone scale and exposure transforms are provided (see element (a)). Moreover, multiple images are made and then a selection is made as to the most satisfying print image. There is no such selection in Shalit.

It is true that Stokes and Shalit do provide tone scale correction algorithms but the present invention does not correct its exposure and tone scale algorithms but only selects the most satisfying image and does not change the transforms. The present invention then uses the same uncorrected transforms on subsequent images.

As previously pointed out to the Examiner, Gilman relates to a method for constructing a single transforms for a predetermined display or printer. Applicants fail to see how Gilman has any relationship to the present invention.

Claims 1and 4 are the only remaining independent claims in this application. Claim 1 is the broadest claim. The differences between claim 1 and 4 claim 4 is that the transforms are specified as nonlinear. Whereas, in claim 1 they can be either linear or nonlinear. Applicants believe in the above discussion they have clearly pointed out how neither Stoke nor Beretta use multiple transforms (that are not changed) to produce a plurality of images so that the most satisfying image can be selected. Beretta uses a scanner with a single exposure. Stokes selects a particular transform from psychophysical data and then uses that transform on all subsequent images without further test. Where is the motivation to combine Stokes and Beretta? Stokes wants to select a single transform and Beretta does not. Clearly, there is no motivation. It is believed that claims 1, 4 and 5 define unobvious subject matter over Stokes or Beretta taken singly or in combination.

In rejecting claim 4 Shalit was used in addition to Stokes and Beretta. Stokes and Beretta have been discussed above. Shalit has also been discussed and summarizing Shalit does have a display but he uses it in a xerographic machine which only has a single exposure. The displayed and printed images in Shalit can be correlated on a pixel by pixel basis. Clearly Shalit does not have a plurality of tone scale exposure transforms. After his adjustment is made multiple images are printed. Applicants fail to see how Shalit can even be combined with Beretta. Beretta uses multiple transforms to make images. Both Stokes and Shalit do provide tonal correction for a device that has as a single exposure. There is nothing in any of these references that suggest using a plurality of unique exposure-tone scale transforms to produce multiple images and then have a user select the most pleasing image.

Claim 5 depends upon claim 4 and should be allowed along with it. Therefore, this rejection need not be discussed in detail, with the exception that Gilman produces a single transform and has nothing to with selecting the most satisfying print from a captured digital image using the unique multiple transforms set forth in element (a) of claims 1 and 4.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.